



# Conference proceedings

## 2017 EFITA WCCA CONGRESS

European conference dedicated to the future use of ICT  
in the agri-food sector, bioresource and biomass sector

Montpellier, France – July 2<sup>nd</sup> - 6<sup>th</sup>



# **2017 EFITA WCCA Congress Conference Proceedings**

Montpellier, France

July, 2<sup>nd</sup> to 6<sup>th</sup>

Texts compiled by: JEMA Junior enterprise and Irstea (supervision: O. Naud)

Cover illustration by: JEMA Junior enterprise and Irstea.

© Irstea, Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture, 2017

N° ISBN: 978-2-85362-686-6.

## Disseminating price information through mobile phone: are Malagasy farmers ready for it?

Norontsoa A.H. Andriandrambo\*<sup>1</sup>, H      David-Benz<sup>2</sup>, Noro C. Rahelizato<sup>3</sup>

1. *Equipe d'accueil AM2DT, Ecole Doctorale GRND, Ecole Sup  rieure des Sciences Agronomiques, Universit   d'Antananarivo, Madagascar;*

2. *UMR MOISA, CIRAD, TA C-99/15, 73 rue J.-F. Breton, 34398 Montpellier cedex 5, France ;*

3. *Mention Agro-Management, Ecole Sup  rieure des Sciences Agronomiques, Universit   d'Antananarivo, Madagascar.*

**Keywords:** market information system, ICT4D, smallholders, rice, vegetable

### Abstract:

The efficiency of agricultural markets in developing countries is constrained by the asymmetry of information among actors along the value chains, with farmers being at the weakest position (Fafchamps & Gabre-Madhin 2006). Farmers' access to market information would then improve their spatial and temporal arbitration capacity as well as their market power (David-Benz et al. 2012; Shepherd 1997). This is one of the objectives of the Market Information Systems (MIS), which were first promoted in the developing countries in the 1980s and 1990s. From early 2000s, a second generation of MIS emerged, involving information and communication technologies (ICT) and particularly mobile phone (Galtier et al., 2014).

ICT is identified as a major lever for development in Africa (Loukou 2013; World Bank 2012). However, effective use of MIS by farmers in developing countries remains marginal (Galtier et al., 2014), despite the high penetration of mobile phone in rural areas. What are the constraints linked to farmers' adoption of the MIS? According to Galtier et al. (2014), the failure of the second generation of MIS to meet farmers' needs is largely due to (i) the lack of close monitoring and evaluation of the very fast progress in the innovations, and (ii) the risk of exclusion with regards to smallholders' access to ICTs. Compliance with the needs of the target population, as well as their capacity to use SMS-based devices, within fast changing contexts, have been highlighted as one of the conditions for the MIS effectiveness (Burrell & Oreglia 2015, Garuku, Winters & Stepman 2009; Shepherd 1997). This communication is addressing these assumptions. Based on rapid surveys of recipients at the initial steps of the development of new dissemination tools, we analyze the adequacy of the use of SMS to disseminate information to smallholder farmers.

In Madagascar, the development of the MIS started in 2005 with the creation of the Rice Observatory (OdR) and the Vegetable Economic Information System (Siel). Both systems recently started to introduce the use of mobile phone in the collection and dissemination of market information: in 2014 for the OdR and in 2016 for the Siel. During an initial test phase, a selection of prices was sent weekly via SMS to a sample of producers. Such test was carried out with farmers involved in different crops and at different locations: rice farmers producing in one area close to the capital city and in another landlocked area in the North of the country, and vegetable farmers on the outskirts of Antananarivo. After a few months of weekly diffusion of SMS, feedbacks from the target producers were collected via rapid field surveys or using phone calls, in order to have an early appraisal of the new dissemination methods and be able to rapidly adjust them.

The results show that farmers' sources of information about market situation are diverse. Direct communication with relatives or buyers remains the major means to access information. Mobile phone penetration is uneven across the surveyed areas (mobile phone ownership ranges from 46% of the households in the most landlocked area to 75% of those in the rice-growing area close to the capital city); and only about 10% of producers use their mobile phone to make inquiries about product prices or to contact a buyer before selling. Radio is mostly used for entertainment and agriculture related programs are rare. The more the producers are involved in market

transactions (ie. trading large quantities and selling beyond farm-gate), the better-off they are, the more they are willing to receive detailed and personalized information (via SMS or voice systems) and the more they are willing to pay for such information. The level of understanding the meaning of the messages differs according to the context: for rice farmers, those having a good understanding are about 39% in the landlocked area, and 75% in the vicinity of the capital city; as for vegetable production, it accounts for 86% of the farmers in the peri-urban area (these percentages refer only to producers who actually have received the messages). A large majority of farmers, considering all types of products and areas, perceive the usefulness of the information they receive as an improvement of their general knowledge about market; one-quarter to one-third of them declare that they will use it to better negotiate and build their marketing strategy. Most farmers who have received the messages find that the broadcasted information is reliable and dissemination via SMS is appropriate for them. More than half of the farmers declared that they were willing to pay to continue receiving the information via SMS. However, the main constraints for a large use of SMS to disseminate information in Madagascar are: (i) the rapid “loss” of the recipients (because of a change in phone number due to a loss of the the phone itself or after a switch to another phone company, or the fact of giving the device to a family member), and (ii) technical constraints (lack of recharging points for the battery, limited coverage of the mobile phone network, old mobile phones unsuited for SMS ...).

Solely relaying on mobile phone to disseminate market information would exclude a significant portion of farmers who fail so far to have access to such tool or are unfamiliar with SMS. The MIS can be a driving force for disseminating these marketing tools at farmers’ level, but this would require major training efforts. Beyond the technical capacity to use SMS, the enhancement of farmers’ ability to understand the meaning of the information spread through SMS and use it while making decision is critical. Diverse broadcasting tools are then needed (mobile phone, radio, bulletin boards), as well as a learning process through direct interaction with extension service agents.

## References

1. Burrell, J. & Oreglia, E., 2015, ‘The myth of market price information: mobile phone as the application of economic knowledge in ICTD’, *Economy and Society*, vol.44 (2), pp. 271-292.
2. David-Benz, H., Egg, J., Galtier, F., Rakotoson, J., Shen, Y. & Kizito, A. 2012, *Les systèmes d'information sur les marchés agricoles en Afrique subsaharienne: de la première à la deuxième génération*, Focales 14, AFD, Paris.
3. David-Benz, H., Andriandralambo, N., Chimirri, C., Soanjara, H., Rahelizatovo, N., Rivolala, B., Razafimanantsoa, T. D., Rakotonarivo, C. & Abel-Ratovo, H. 2016, ‘Comprendre les déterminants de l'accès au marché des producteurs pour améliorer les Systèmes d'Information de Marché. Le cas des producteurs de riz à Madagascar’, in H. Duchaufour, T. Razafimbelo, J. Rakotoarisoa, B. Ramamonjisoa & Rakotondravao, (eds), *Recherche interdisciplinaire pour le développement durable et la biodiversité des espaces ruraux malgaches. Application à différentes thématiques de territoire. Actes du projet FSP PARRUR “Partenariat et Recherche dans le secteur RURal”*, pp. 189-214, Ed. MYE, SCAC/PARRUR, Antananarivo.
4. Fafchamps, M. & Gabre-Madhin E. 2006, ‘Agricultural markets in Benin and Malawi’, *African Journal of Agricultural and Resource Economics*, vol.1 (1), pp. 67–94.
5. Galtier, F., Subervie, J., David-Benz, H. & Egg, J. 2014, ‘Les systèmes d'information sur les marchés agricoles dans les pays en développement: nouveaux modèles, nouveaux impacts’, *Cahiers Agricultures*, vol.23 (4-5), pp. 245-258.
6. Garuku, M., Winters, K. & Stepman, F. 2009, *Inventaire des services d'Information agricoles novateurs utilisant les TIC*, Forum pour la Recherche Agricole en Afrique (FARA), Accra.
7. Loukou, A. F. 2012, ‘Les TIC au service du développement en Afrique: simple slogan, illusion ou réalité’, *tic&société*, vol. 5, no 2-3. Available from: <http://ticetsociete.revues.org/1047/>. [15 mars 2017]
8. Shepherd, A. W. 1997, *Les services d'information sur les marchés: théorie et pratiques*, FAO, Rome.
9. World Bank. 2012, *Information and communication for development 2012: maximizing mobile*, World Bank, Washington D.C.